 Group Machining of Parts (Cont.) 853	
Ch. II. Group Method of Machining Parts 1. General characteristics of the grouping method 2. Principles of planning group manufacturing processes 3. Classification of parts (grouping) 4. Development of the group manufacturing process	16 16 17 20 34
Ch. III. Design of Special Devices for Group Production	57
Ch. IV. Modernization of Equipment 1. Modernization of turret lathes 2. Modernization of lathes as related to the grouping of machine parts 3. Modernization of milling machines	70 71 83 104
Ch. V. Group Machining of Parts as a Basis for Developing Unit Head Machine Tools	109
Ch. VI. Application of the Group Method to Various Kinds of Machining of Parts	111
Card 3/4	

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

Group Machining of Parts (Cont.) 853

Operation of machine tool	Increase in efficiency (percent)	Reduction of set-over time (percent)
Turret lathe	40-50	50-60
Turning lathe	20-30	20 -3 0
Milling machine	25-30	70- 80
Drilling machine	20	(not given)

The author thanks the following persons for their active participation in introducing the grouping method to the industry: Engineers: Ye.K.Ivanov, M.L.Tas ba, I.S.Gindin, A.A.Karabel nikov, V.I.Platonov, and foremen: A.Kh.Yanbukhtin, and A.A.Shakin. There are no references.

TABLE OF CONTENTS:

Introduction

Ch. I. Basic Problems of Production Planning

Card 2/4

MITROFANOV, SERGEY PETROVICH

PHASE I BOOK EXPLOITATION

853

Mitrofanov, Sargey Petrovich, Candidate of Technical Sciences

- Gruppevaya obrabotka detaley kak metod nauchnykh osnov tekhnologii (Group Machining of Parts as a Basis of Scientific Development of Production Methods) Leningrad, 1957. 115 p. 7,000 copies printed.
- Sponsoring Agencies: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR and Leningradskiy dom nauchno-tekhnicheskoy propagandy.
- Ed.: Kutay, K.A., Candidate of Technical Sciences, Docent; Tech. Ed.: Freger, D.P.
- PURPOSE: This booklet is intended for tool and production engineers.
- COVERAGE: The booklet presents a "group method" for machining based on a classification of parts. It is stated that the group method of production greatly reduces the preparation time for production, and improves organization and efficiency of various operations. The following figures show the increase in operating efficiency: Card 1/4

Group Method of Machining Parts (Cont.) 829 5. Preparation of Production Tooling	42
6. Modernization of Equipment Modernization of machine tools to reduce manual handling time Modernization of lathes related to the grouping of machined parts a) Multiposition devices for tool mounting b) Turrets Four-spindle turrets Eight-spindle turrets Use of lathe tail stock Devices used for reducing time of setting tool for proper size Longitudinal drum-type rests Transverse rests	56 57 59 61 64 64 67 69 73 75
Conclusions	82
AVAILABLE: Library of Congress GO/ksv 11-13-58	

Group Method of Machining Parts (Cont.) 829 claimed that this method of machining reduces manual handling time, improves organization of production, and considerably increases operating efficiency. There is I Soviet reference. TABLE OF CONTENTS: 3 Introduction Preparing for the Manufacturing Processes 5 2. Principles for Developing Group Manufacturing Processes 10 13 3. Classification of Parts -- Grouping 30 4. Working Out Group Manufacturing Processes 33 a) Rough machining a part 35 b) Finishing a part Card 2/3

PHASE I BOOK EXPLOITATION 829

Mitrofanov, Sergey Petrovich, Candidate of Technical Sciences

Gruppovoy metod obrabotki detaley na tokarnykh i frezernykh stankakh (Group Method of Machining Parts on Lathes and Milling Machines) Leningrad, 1956. 82 p. (Series: Leningradskiy dom nauchno-tekhnicheskoy propagandy. Informatsionno-tekhnicheskiy listok, no. 35-39. Mekhanicheskaya obrabotka metallov) 10,000 copies printed.

Sponsoring Agencies: Vsescyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy, Leningradskiy dom nauchnotekhnicheskoy propagandy.

Tech. Ed.: Freger, D.P.

PURPOSE: This booklet is intended for tool and production engineers.

COVERAGE: The booklet describes the basic principles of a group method of machining parts on lathes and milling machines. It is

Card 1/3

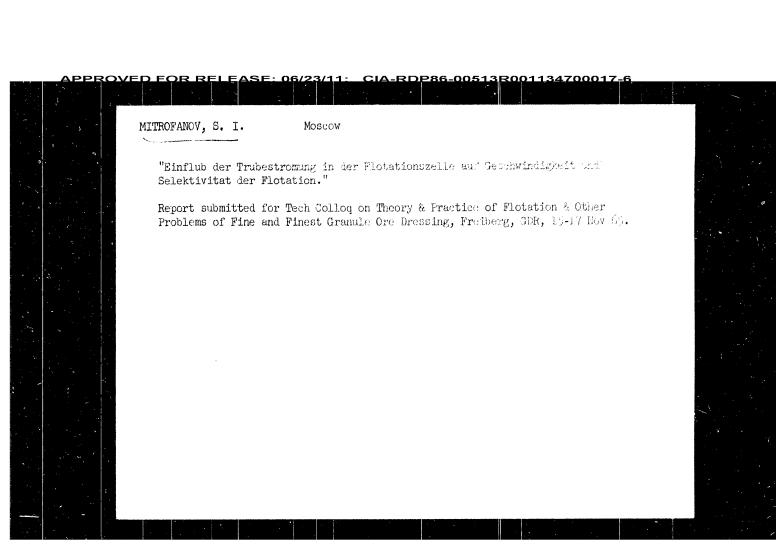
M/5
7/hl, h16
.W6

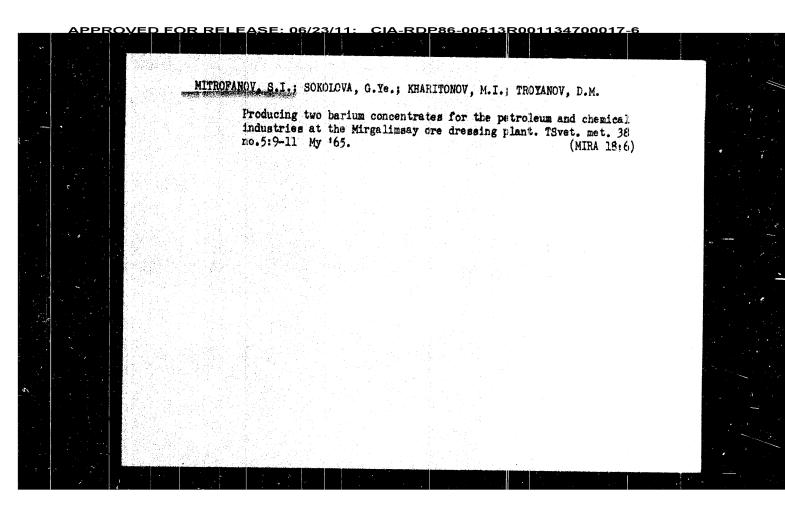
Metod gruppovoy obrabotki detaley na revol'vernykh stankakh (Assembly method machining of parts on turret lathes) Moskva, Mashgiz, 1055.
206 p. illus., diagrs., tables.

"Literatura" p. (20h)

MITROPANOV, S. P. Zavisimost' f_zicheskikl svoyst' letuchikh restvoriteley of realichnykl fattorov. Trady Knamodarsk, in-ta pishch. prom-ati, vyp. S, 1949, n. 149-65.

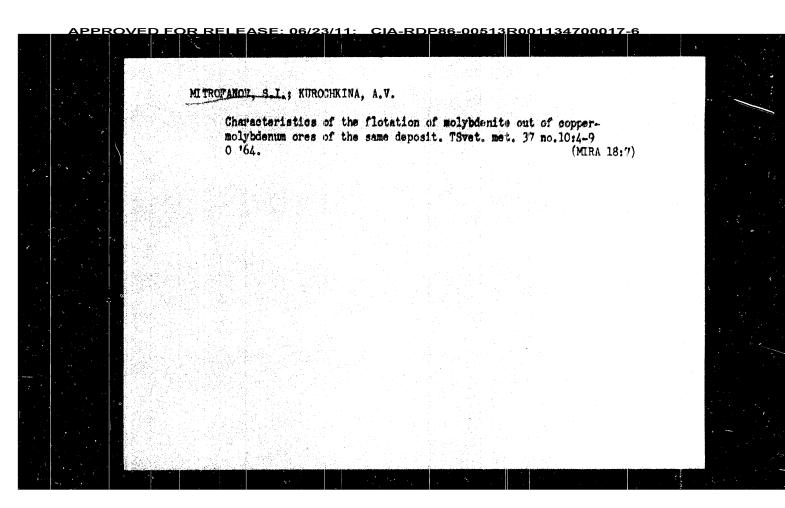
S0: Letopis' Zhurnal'nykh Statey, No. 29, No. 29, No. 2949





MITROFANOV, S.I. (Moskvs); ROZIN, Ye.Ye. (Moskvs); MAYOROV, A.D. (Moskvs)

Influence of the speed of pulp flow in a compartment flotation machine on the rate of flotation, Izv. AH SSSR. Met. 1 gor. delo no.6:188-191 M-D '64. (MIRA 18:3)



tsvetnoy metal urgii, Sovet narodnogo khozvaystva SSSR (for Troitekiy). 2. Gosudarstvennyy institut po proyektirovaniyo predpriyatiy tsvetnoy metallurgii (for Lazinteev). 9. Gosudarstvennyy nauchno-isələdovatel'skiy institut tsvetnykh metallov (for Mitrofanov, Sobol', Genin). 10. Gosudarstvennyy nauchno-isələdovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov (for Sclov'yev). 11. Vsesoyuznyy nauchno-isələdovatel'skiy i proyektnyy institut mekhanicheskoy obrabotki poleznykh iskopayemykh (for Mymgkova). 12. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy tsvetnoy metallurgii (for Gaylit).

KRYSENKO, N.S.; POZNYAKOV, V.Ya.; GAZARYAN, L.M.; ZADOV, Ye.B.;

KADYRZHANOV, K.K.; KUZ'MIN, A.V.; TROITSKIY, A.V.; LEZGINTSEV, G.M.;

MITROFANOV, S.I.; SOLOV'YEV, V.Ya.; SOBOL', S.I.; MYAGKOVA, T.M.;

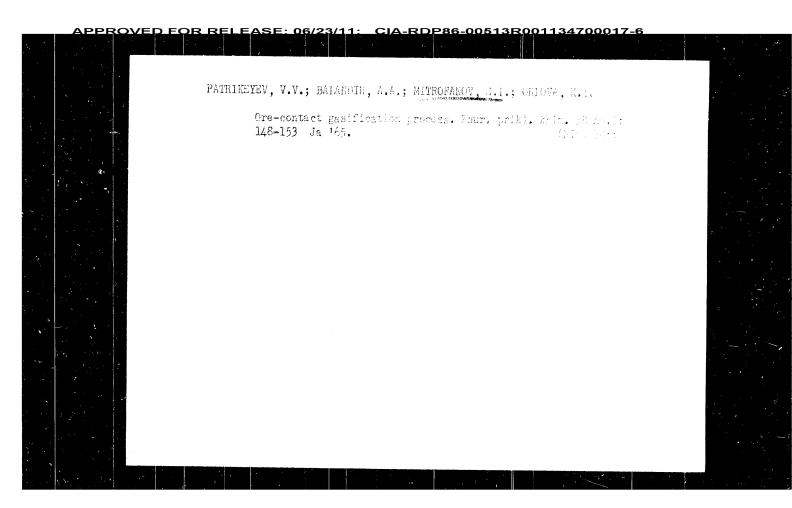
GAYLIT, A.A.; GENIN, N.N.; GEATSEPSHTEYN, I.M.; SKORNYAKOV, Y.I.,

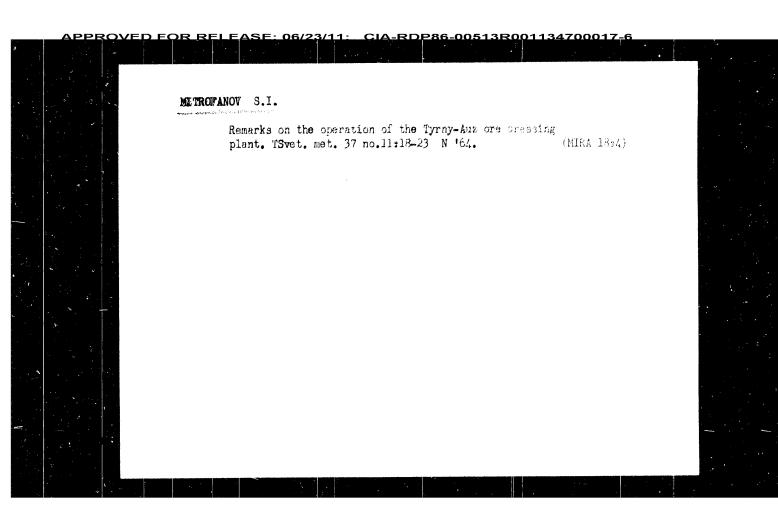
referent

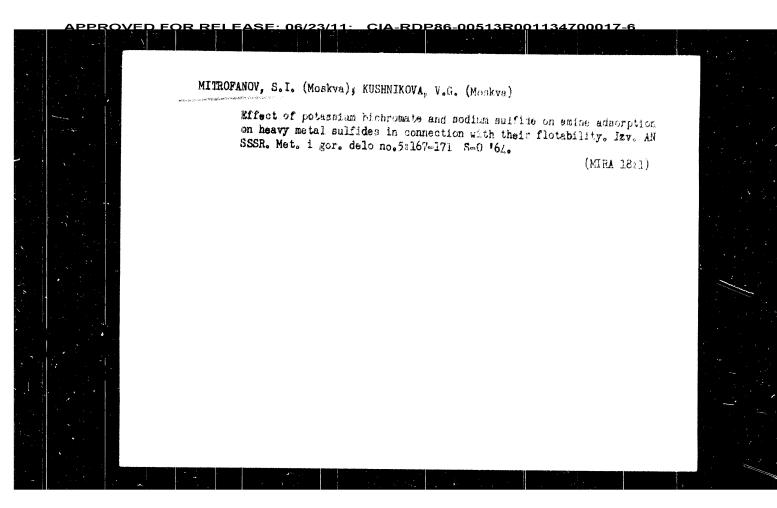
Fourth plenum of the central administration of the Scientific Technological Society for Nonferrous Metallurgy. TSvet. met. 38 no.5:90 My 165. (MIRA 18:6)

1. Chlen TSentral'nogo pravleniya Nauchno-tekhnichegkogo obshchestva tsvetnoy metallurgii i zavod "Ukrtsink" (for Krysenko). 2. Chlen TSentral'nogo pravleniya Nauchno-tekhnichegkogo obshchestva tsvetnoy metallurgii i "Severonikel'" (for Poznyakov). 3. Institut metallurgii im. Baykova (for Gazaryan). 4. Predsedatel' soveta Nauchno-tekhnicheskogo obshchestva Kol'chuginskogo zavoda OTsM (for Yadov). 5. Chlen TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva tsvetnoy metallurgii, Sovet narodnogo khozyaystva Kazakhskoy SSR (for Kadyrzhanov). 6. Predsedatel' gorno-geologicheskoy sektaii TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva tsvetnoy metallurgii; Gosudarstvennyy komitet Soveta Ministrov ESFSR pokoordinatsii nauchno-issledovatel'skikh rabot (for Kuz'min). 7. Chlen TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva

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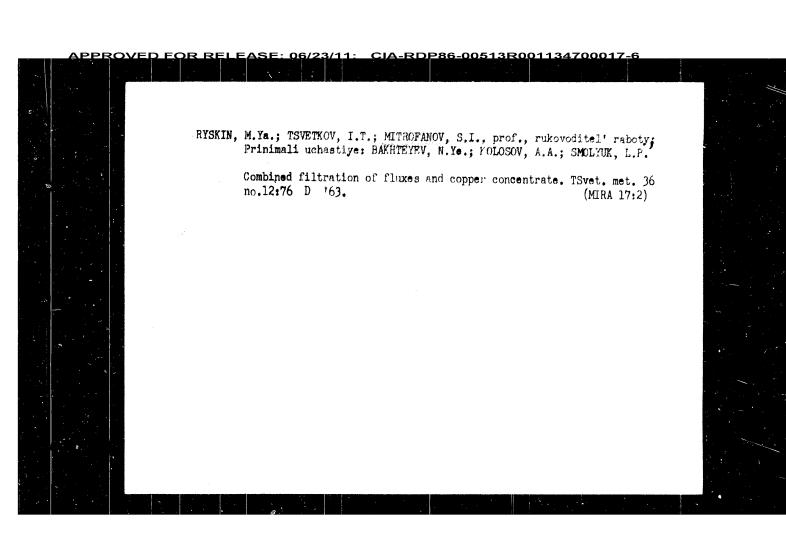


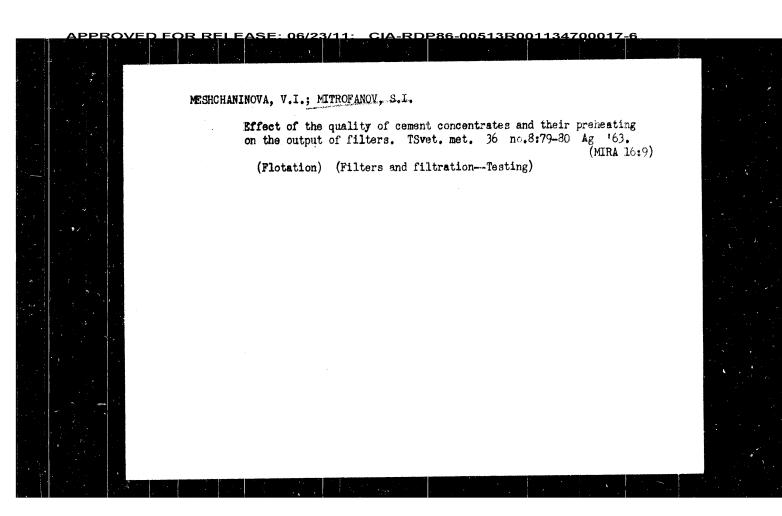


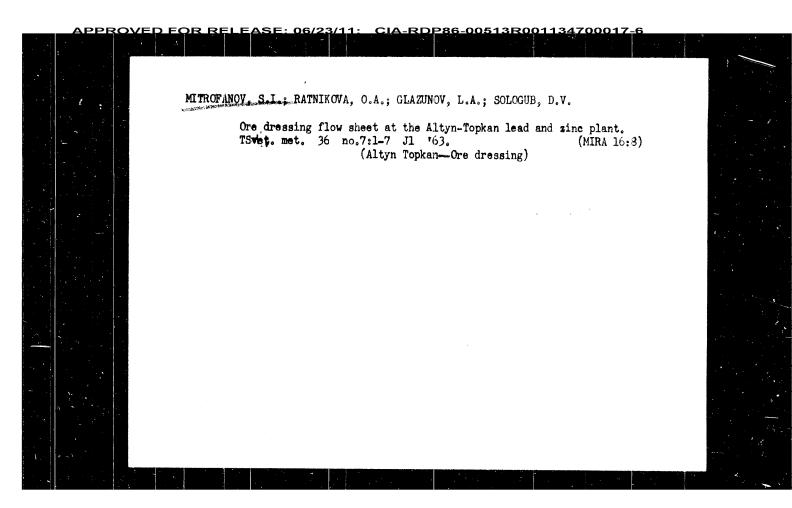


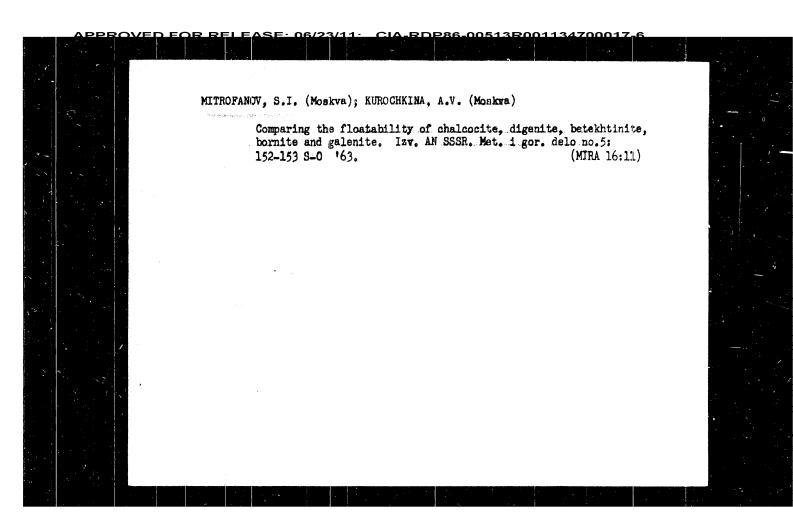
MITROFANOV, S. I.; KUSHNIKOVA, V. G. "Selective adsorption of tridecylamine on sulfides in relation to their floatability." report submitted for 7th Intl Mineral Processing Cong, New York, 20-25 Sep 64.

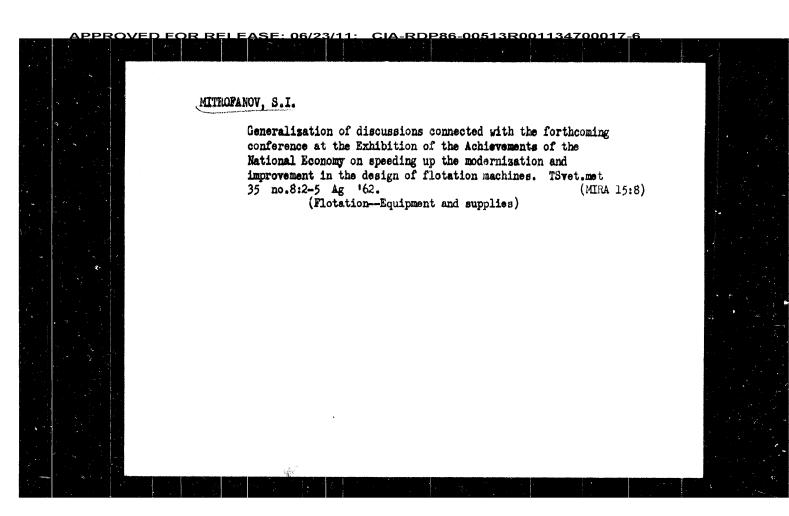
IZRAITEL', S.A., otv. red.; SKURAT, V.K., otv. red.; ZUBAREV, S.N., otv. red.; MOISEYEV, S.L., otv. red.; ASTAF YEVA, A.V., kand. tekhn. nauk, red.; VAS'KOVSKIY, Ye.L., red.; VISHNEVSKIY, Ye.L., red.; KRIVTSOV, B.S., red.; KOROTKIN, I.N., red.; MITROFANOV, S.I., doktor tekhn. nauk, red.; NORKIN, V.V., kand. tekhn. nauk, red.; NIKITIN, A.A., red.; RUDNEV, A.P., red.; SLASTUNOV, V.G., red.; TKACHEV, F.A., red.; RAUKHVARGER, Ye.L., kand. tekhn. nauk, red.; FEOKTISTOV, A.T. [deceased], red.; ZAYTSEV, A.P., red. [Safety regulations for the dressing and sintering of ferrous and nonferrous metal ores] Pravila bezopasnosti pri obogashchenii i aglomeratsii rud tsvetnykh i chernykh metallov. Moskva, Nedra, 1964. 106 p. (MIRA 18:4) 1. Russia (1917- R.S.F.S.R.) Gosudarstvermyy komitet po nadzoru za bezopasnym vedeniyem v promyshlenmosti i gornomu nadzoru.







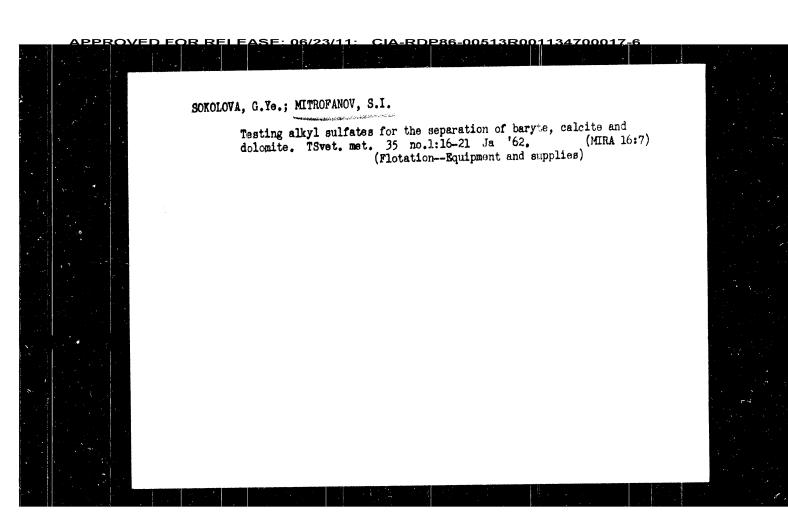


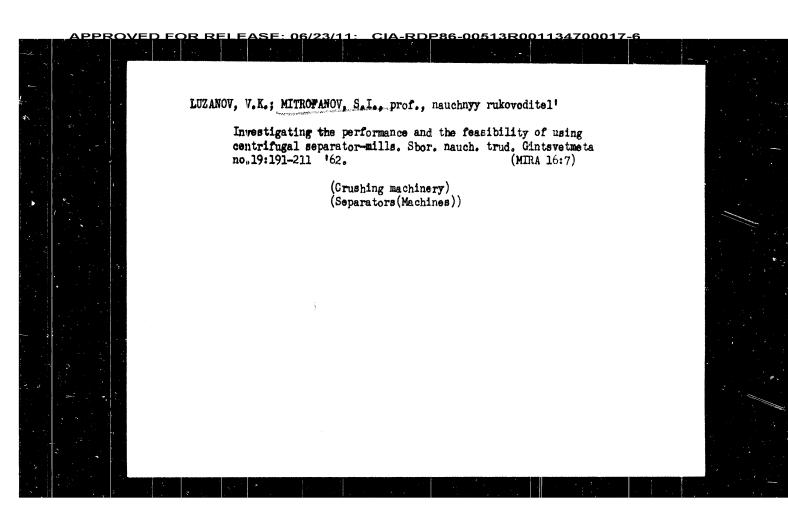


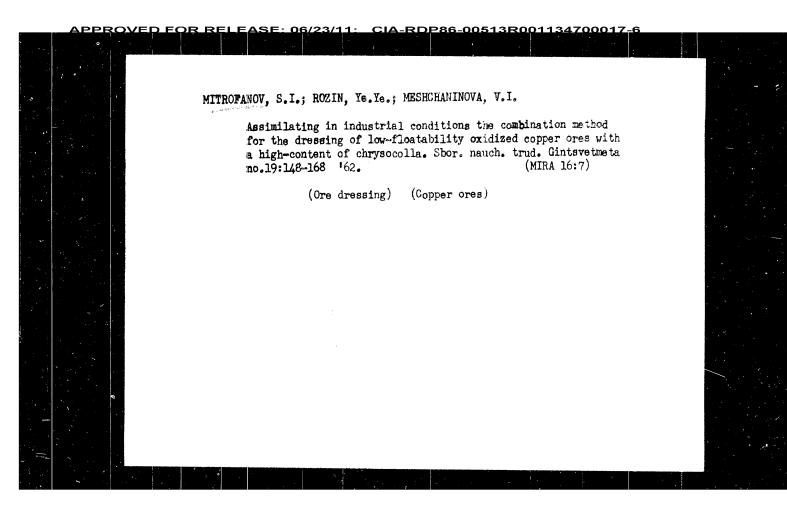
MITROPANOV, S.I.; SOKOLOVA, G.Ye.; KHARITONOV, M.I.; TROFIMOVA, V.I.

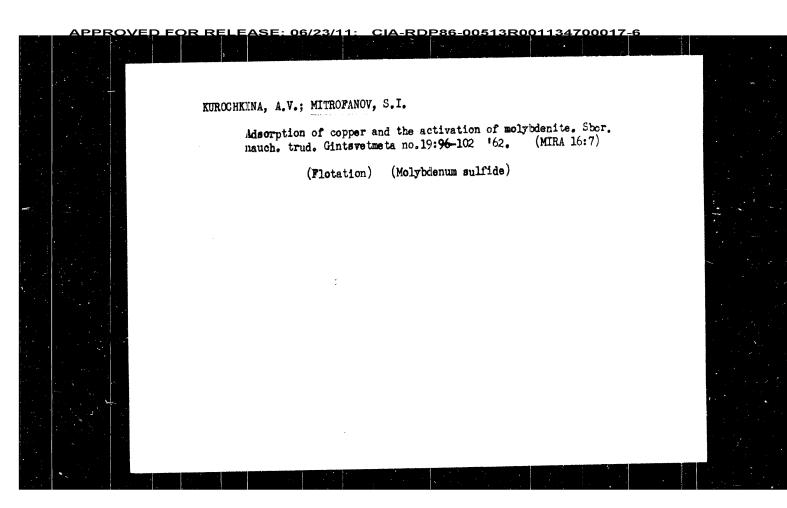
Improving the technology of barite recovery at the Mirgalimany Flant.
TSvet. met. 35 no.6:18-23 Je '62.

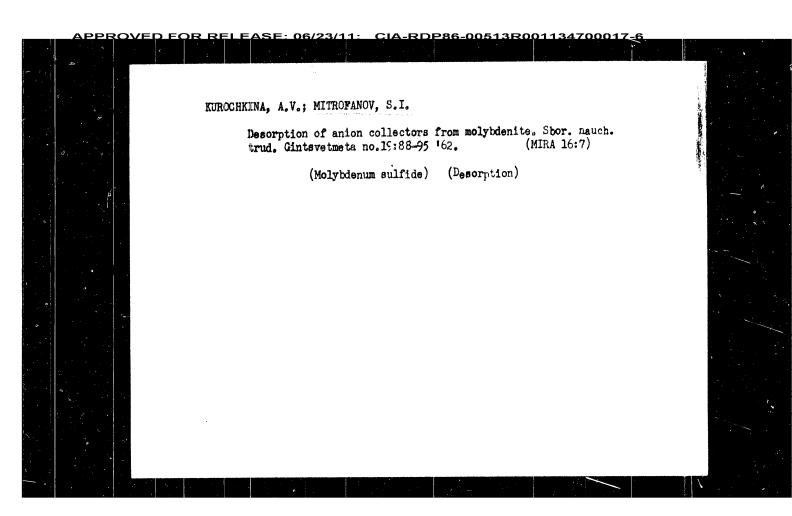
(Mirgalimsay region—Barite)

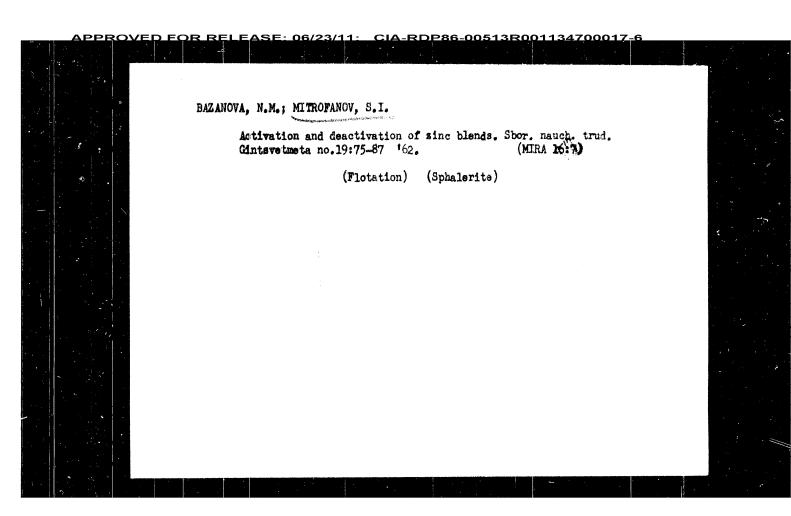


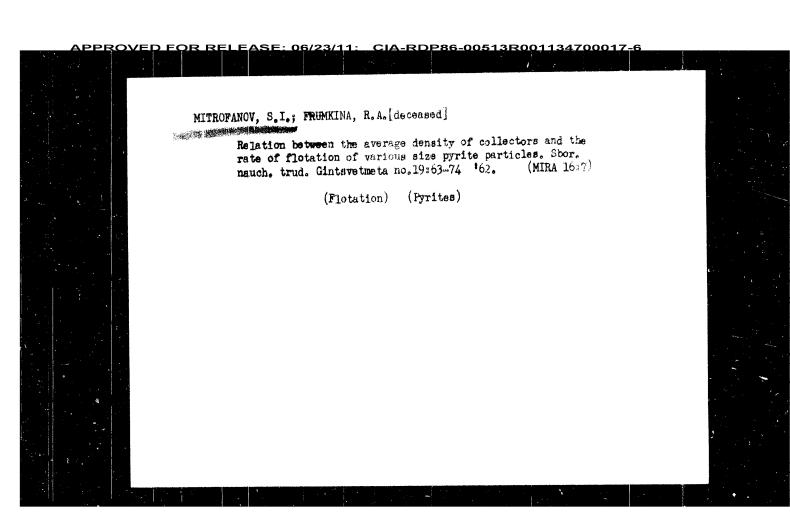


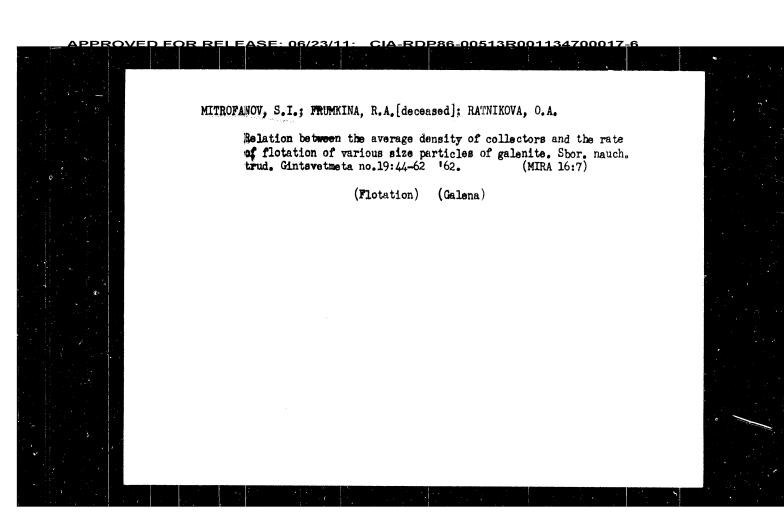


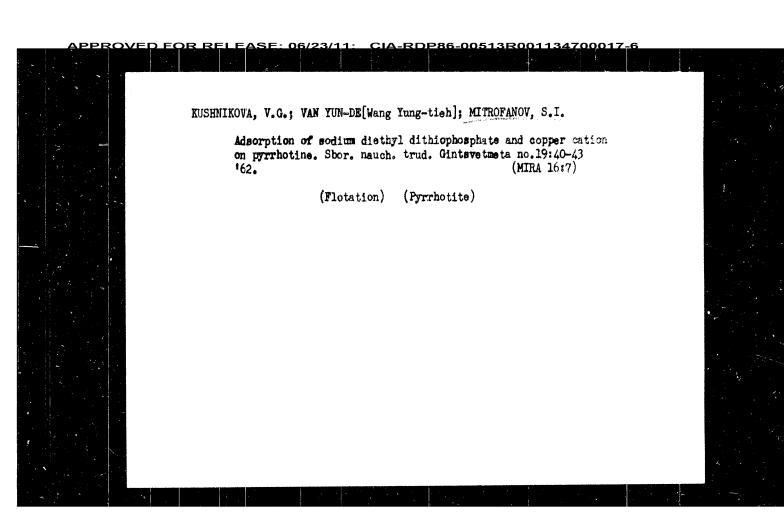


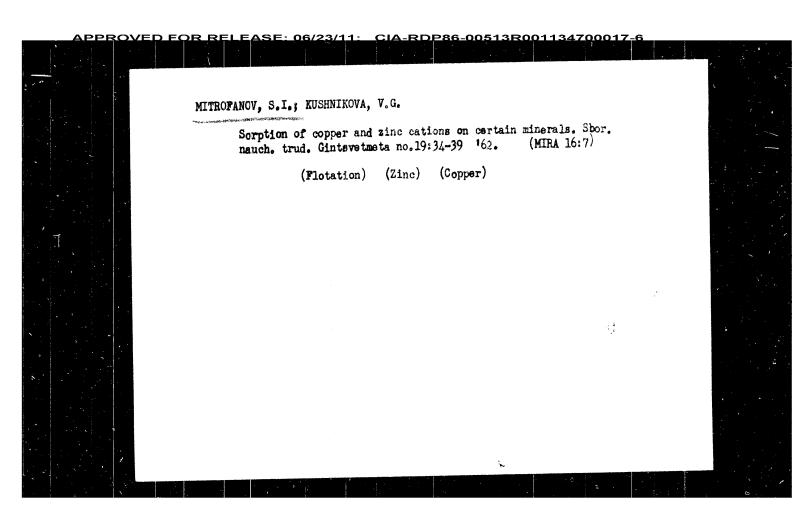


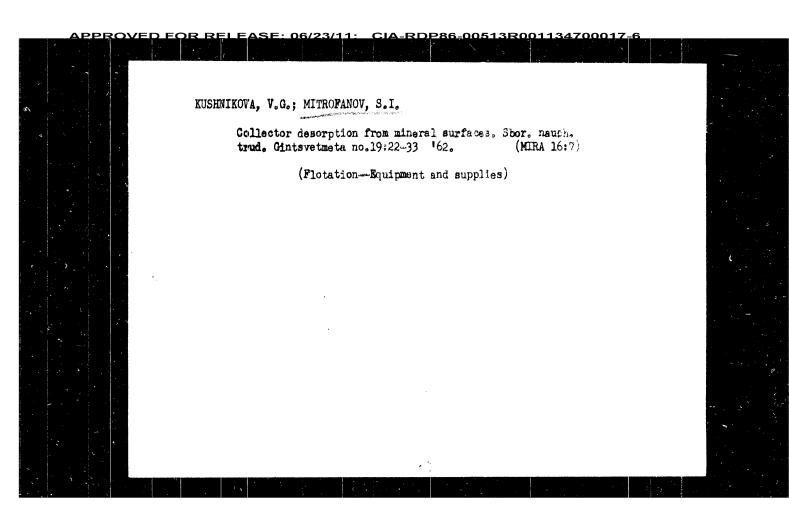


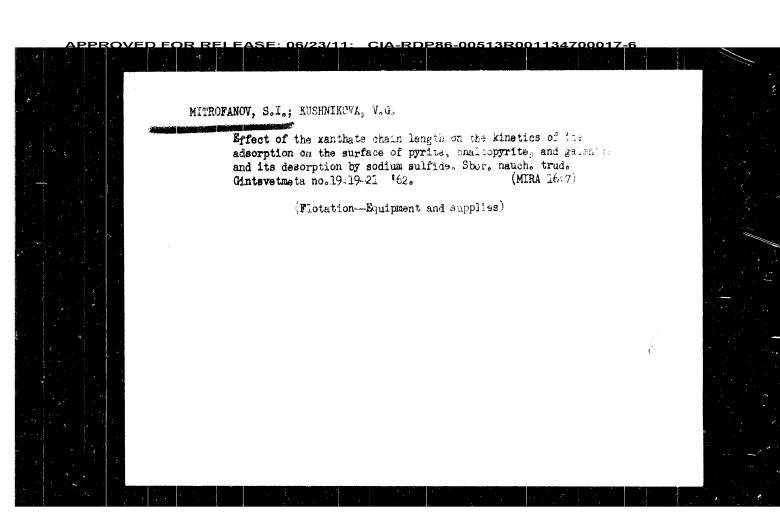


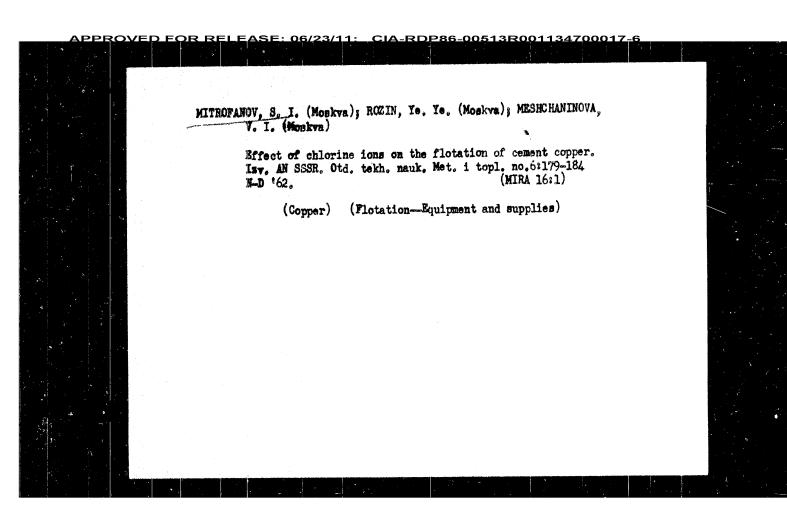


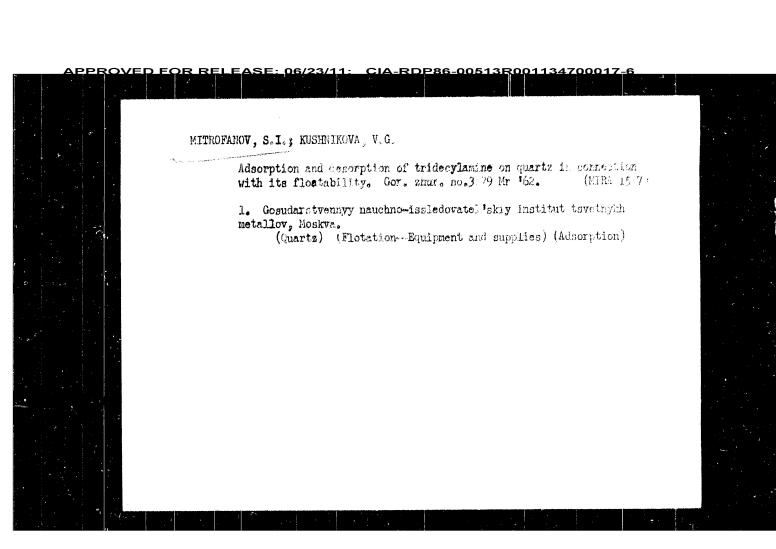


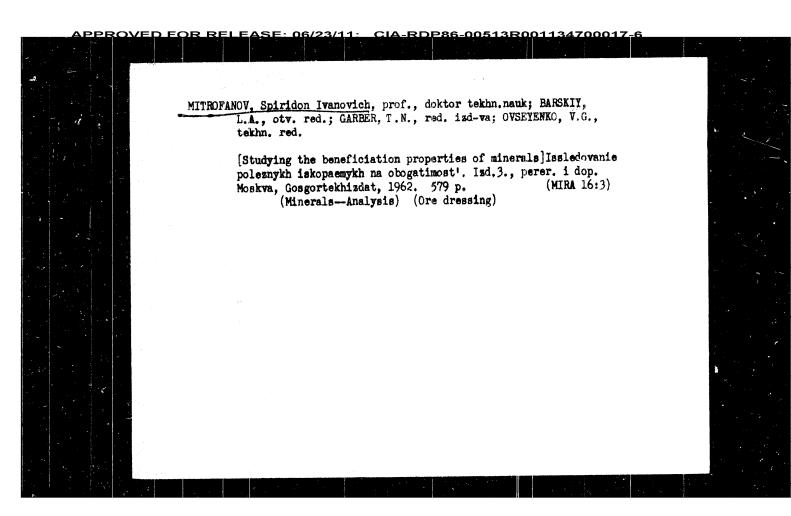


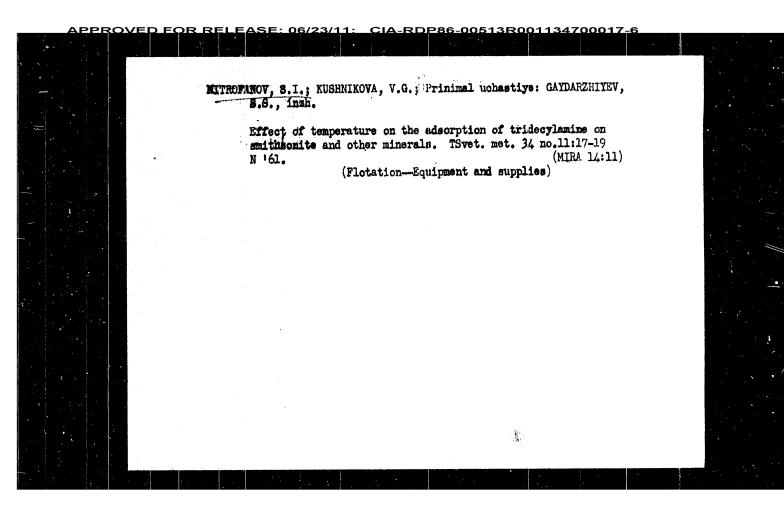


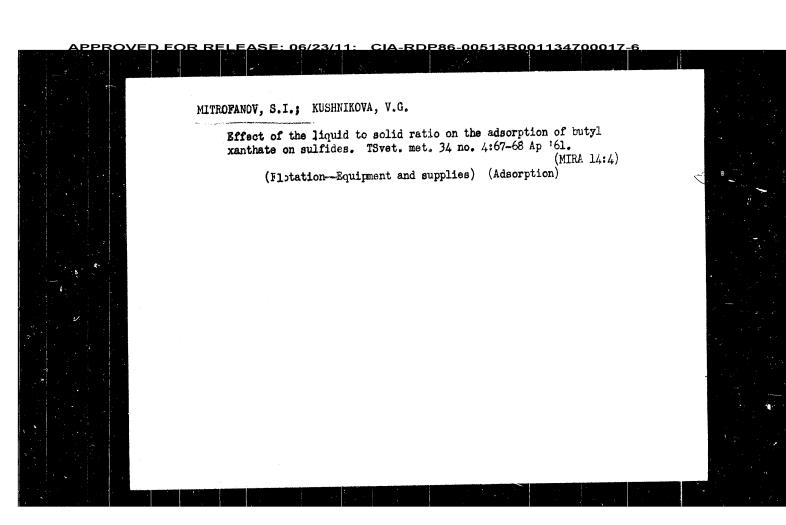










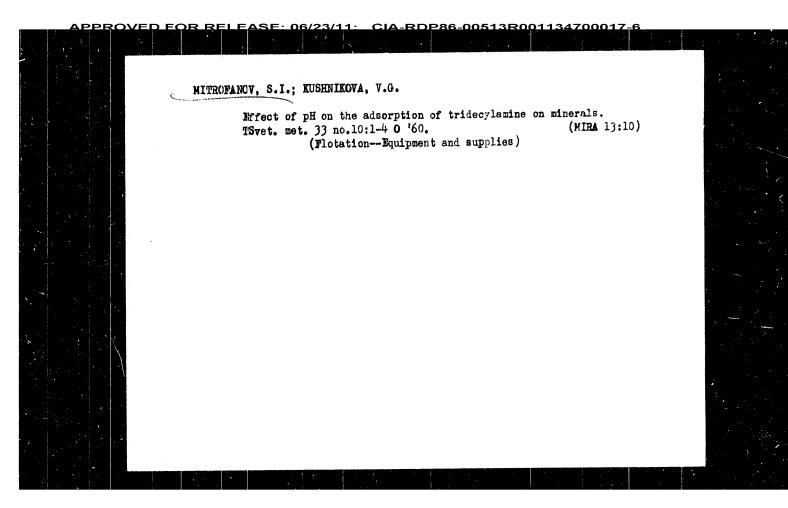


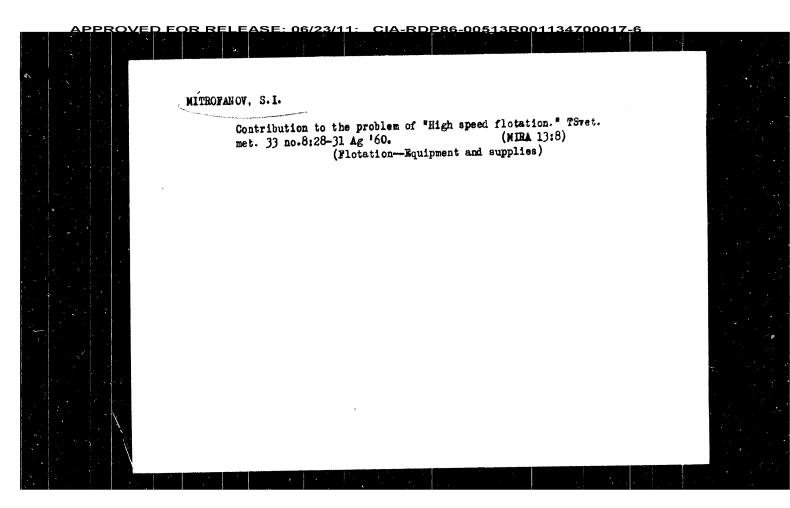
BAZANOVA, N.M.; MITHOFAMOV, S.I.

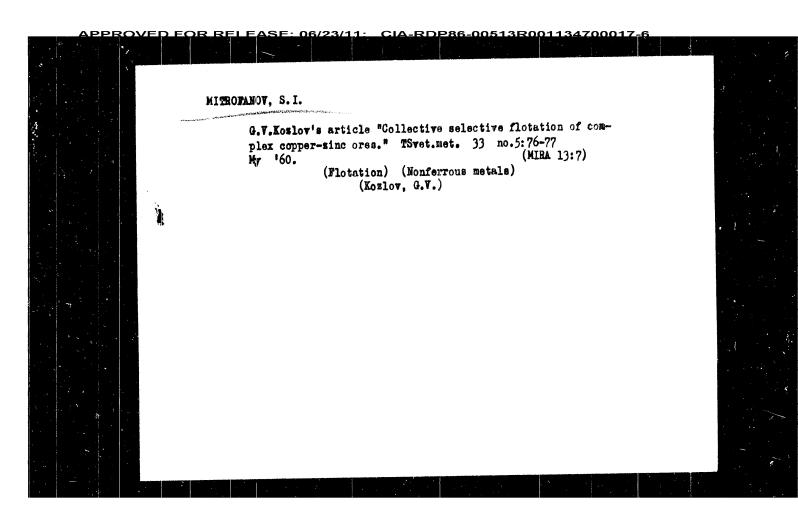
Kinetics of copper sorption on zinc blende. Obog. rud (no.2:17-20 (Mica 14:8))

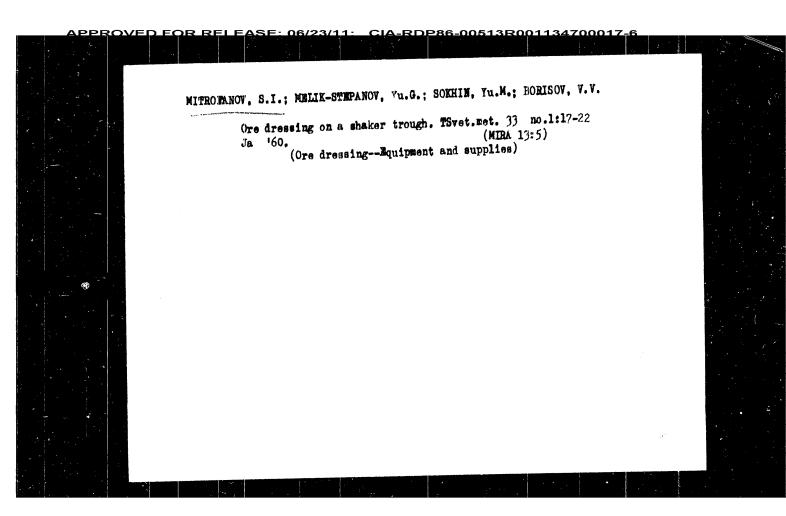
1. Gosudarstvennyy nauchno-issledovatel skiy institut tsvetnykh metallov.

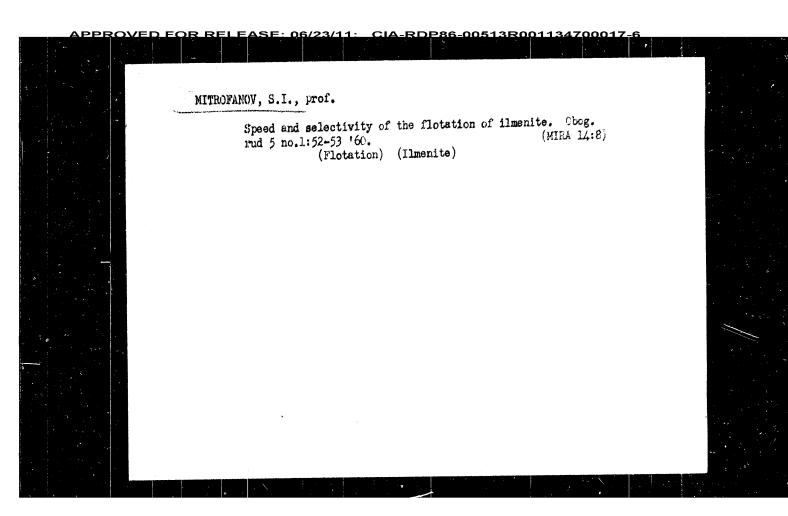
(Flotation) (Nonferrous metals)











On a new application of movable heavy media...

S/137/61/000/011/037/123 A060/A101

vibratory action on the heavy moving medium in "EXX" ("VZh") apparatus acts to render it denser and raise its specific gravity to 3.15 - 3.2. An electronic apparatus has been worked out for the control of the specific gravity of the medium, using a capacitance transducer as the density indicator. A semi-industrial installation "VZh-3" has been designed and constructed, and is being tested. The schematic diagrams are given.

A. Shmeleva

[Abstracter's note: Complete translation]

Card 2/2

S/137/61/000/011/037/123 A060/A101

AUTHORS: Mitrofanov, S. I., Melik-Stepanov, Yu. G., Sokhin, Yu. M., Borisov,

V.V.

TITLE: On a new application of movable heavy media for the concentration of

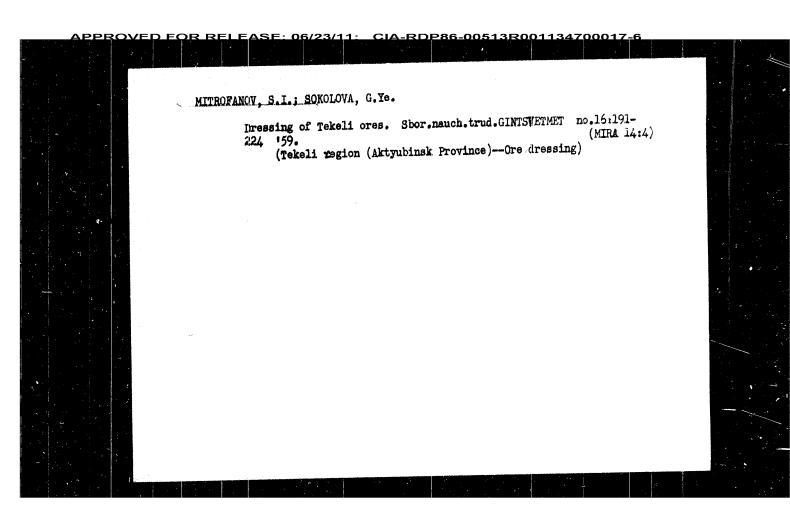
minerals with specific gravity exceeding three

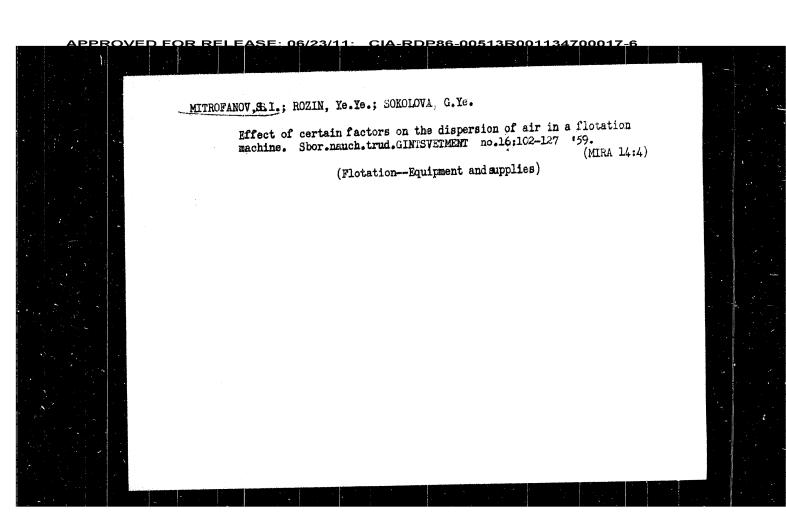
PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 7, abstract 11650 ("Nauchno soobshch. Yakutskiy fil. Sib. otd. AN SSSR", 1960, no. 3.

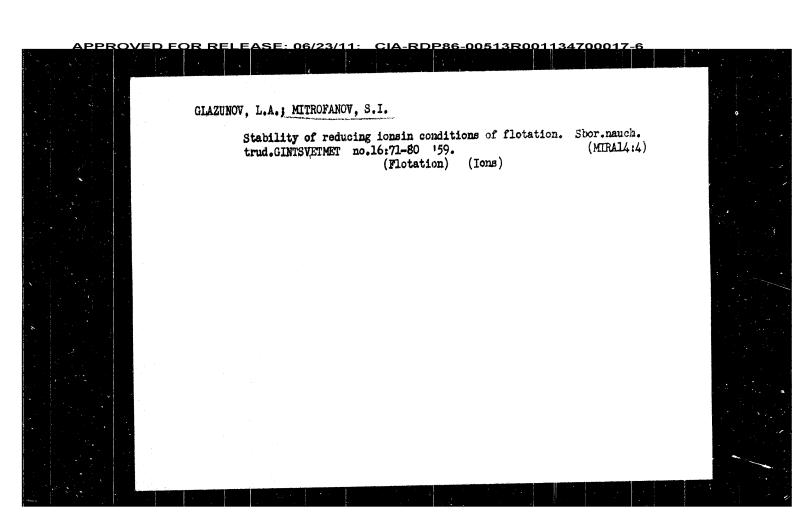
50 - 61)

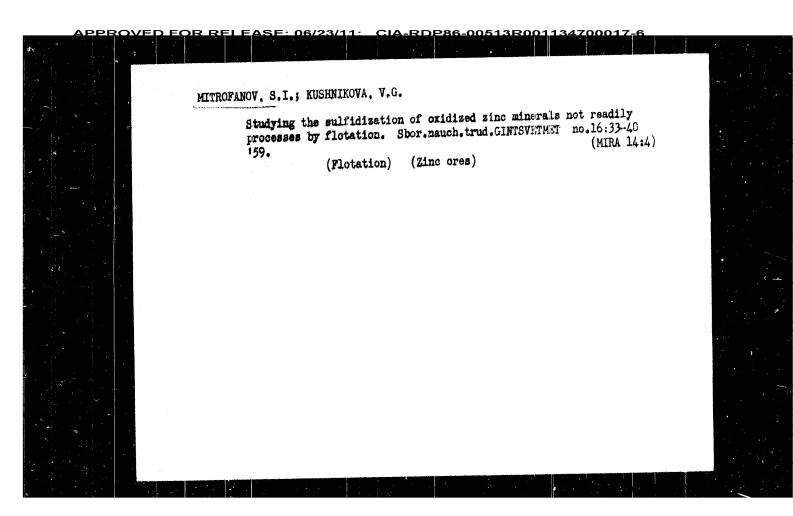
TEXT: One of the problems of this work was the finding of the cheapest, but sufficiently efficacious materials for the moving layer. The following ore materials were studied: hematite-magnetite dredge slimes, magnetic fraction of Jigging concentrate - 1 mm, ground up magnetic fraction of the jigging concentrate - 1 mm and even - 1 + 0.5 mm. The best results were obtained with a moving layer of ilmenite-magnetite material. Its high-specific gravity of 4.75 makes it possible to vary the specific gravity of the moving layer between wide limits depending on the grist fineness. In course of the investigations the necessary parameters were studied. When the volume of the weighting compound is great then the

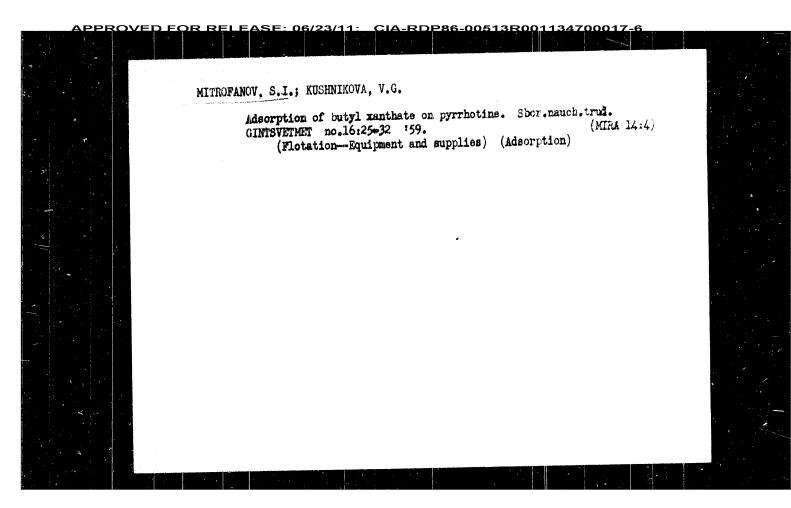
Card 1/2

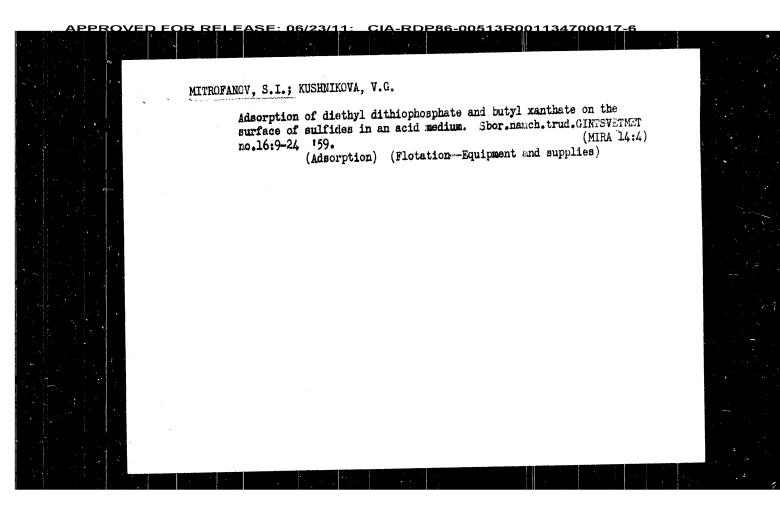












65700
SCV/130-59-10-17/18
Neeting of the Non-Ferrous betals fore moneticiation section of the Standing Committee SEV

papers dealing with matters of general interest and describes, briefly, his impressions from a visit to two ore dressing plants (im. Marchleveki and Orzel Bialy).

Card 2/2

65 700 0.0000 SGV/136-59-10-17/18 Mitrofanov, S.I. AUTHOR: Meeting of the Non-Ferrous Metals Ore Beneficiation TITLE: Section of the Standing Committee SEV PERIODICAL: Tsvetnyye metally, 1959, Nr 10, pp 88-92 (USSR) An ordinary session of the Ore Beneficiation Section of ABSTRACT: the Standing Committee SEV was held in Katowice (Polish Peoples Republic) in June 1959. The main object of the meeting was to consider various means of improving the efficiency and increasing the productivity of ore beneficiation plants in the countries belonging to SEV. In all, fifteen papers were read and discussed by delegates from the following countries (number in brackets indicates the number of papers contributed): Bulgaria (1), Hungary (1), Poland (1), Rumania (1), German Democratic Republic (4), Soviet Union (3) and Czechoslovakia (4). In their contributions, the delegates described, mainly, various improvements in the organization of the ore beneficiation plants and measures adopted in overcoming difficulties associated with the complex character of the treated ores. The present author gives a short resume of Card 1/2

SOV/136-59-2-20/24

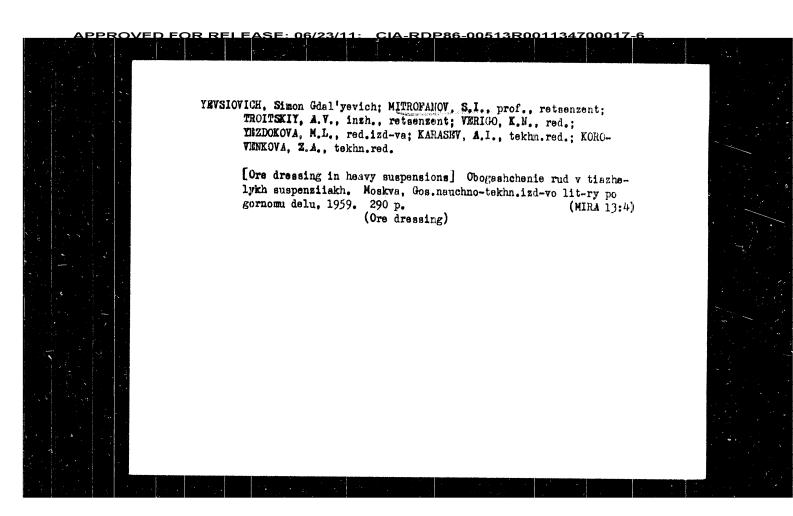
Organisation of the Flotation-Reagent Section in the Standing Committee on Synthetic Surface-Active Agents of the GNTK USSR and the Problems Facing It

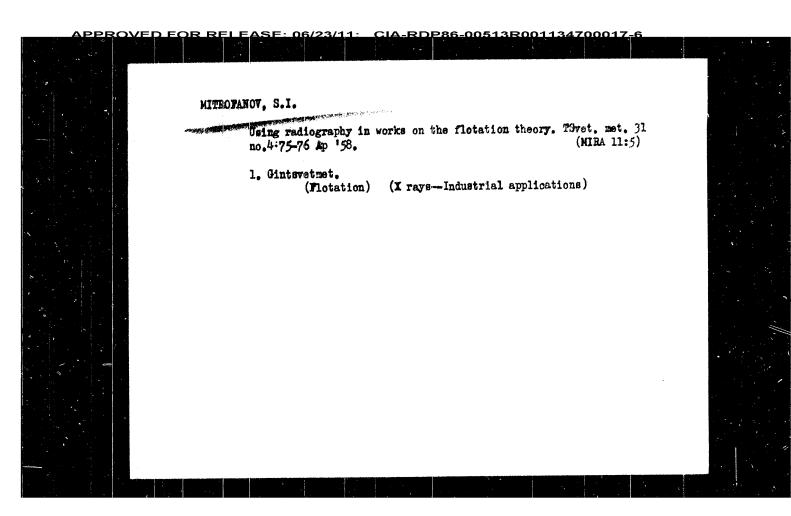
* Gosplan USSR); M.A.Eygeles, Professor, Vsesoyuznyy nauchno-issledovatel'skiy Institut mineral'nogo syr'ya (All-Union Scientific Research Institute for Mineral Raw Materials). The author enumerates the tasks of the section and notes that at a conference on the 10th December 1958, the programme of work for the section was adopted. This conference heard the following reports: S.I.Mitrofanov, Professor, on "Directions and Projects Tor Research Work in 1959 in the Field of the Production and Use of Flotation Reagents"; A.K.Livshits, Candidate of Technical Sciences on "Yanthate Production Methods"; D.M.Rudkovskiy, Candidate of Technical Sciences on "Production of Washing Media from Flotation Reagents". The conference adopted resolutions aimed at increasing facilities for research on flotation reagent and improving its co-ordination. At a conference on the 14th-17th December 1958 of the standing committee on

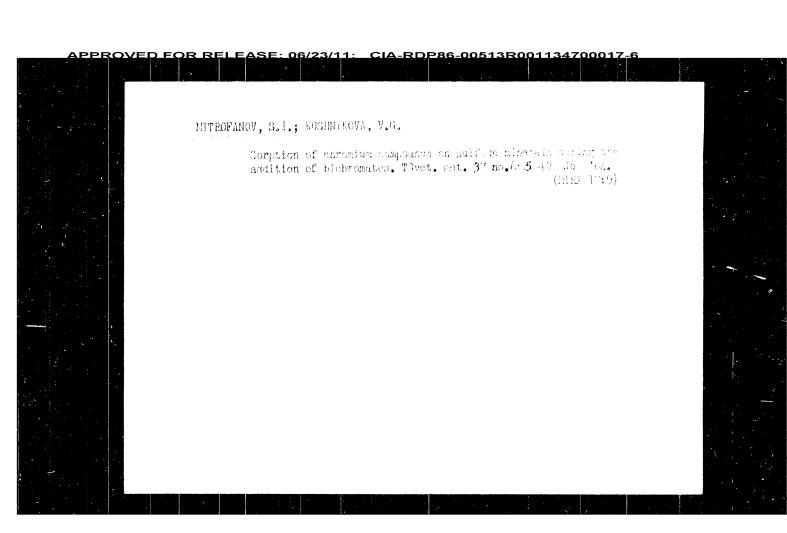
Card 3/4

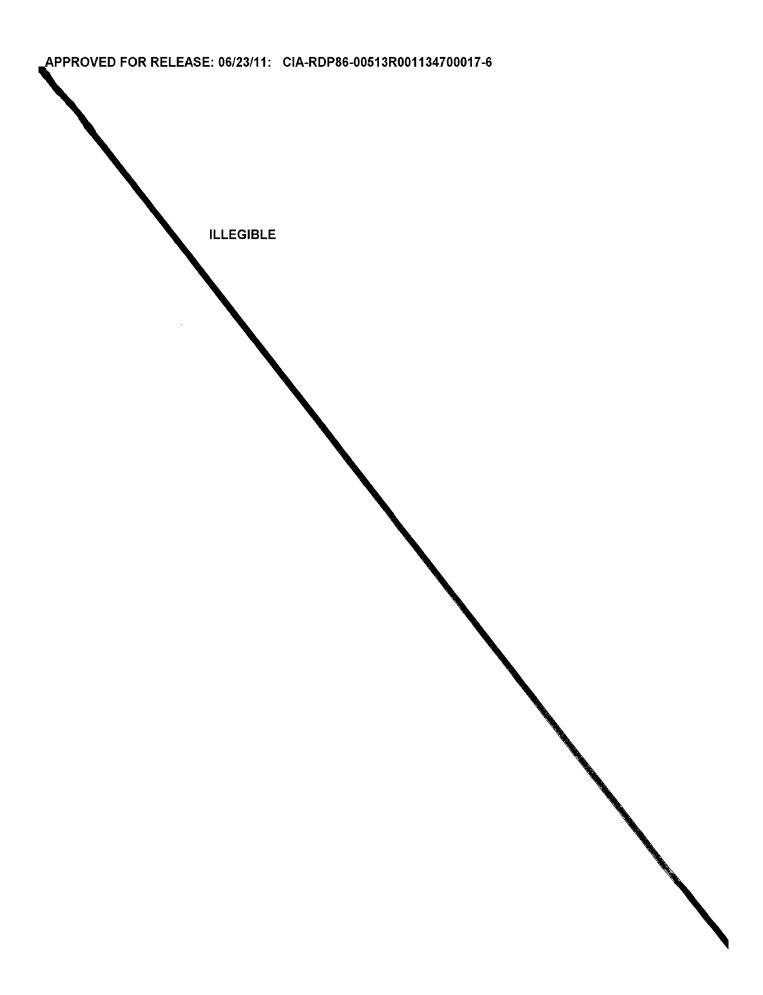
2/2

IA-RDP86-00513R00113470001 MITROFANOV, 5.1. SOV/136-59-2-20/24 AUTHOR: Okolovich, A. Organisation of the Flotation-Reagent Section in the TITIE: Standing Committee on Synthetic Surface-Active Agents of the GNTK USSR and the Problems Facing It (Organizatsiya sektsii flotatsionnykh reagentov v postoyannoy komissii po sinteticheskim powerkhnostno aktivnym veshchestvam pri GNTK SSSR i yeye zadachi) PERIODICAL: Tsvetnyye Metally, 1959, Nr 2, pp 84-85 (USSR) ABSTRACT: One of the four sections of the surface-active agents committee of the GNTK of the Sovet Ministrov SSSR (Council of Ministers of the USSR) is that dealing with flotation reagents. The following have been confirmed as members: I.N.Plaksin, corresponding member AN SSSR (AS USSR) of IGD of the AS USSR (Chairman); O.S. Bogdanov, Professor, Mekhanobr Institute; Ye.S.Alekseyev, Sredneural'skiy medeplavil'nyy savod (Bredneural'my Copper Smelting Works); K.G.Bagatur'yants, Gosudarstvennyy komitet (State Committee) of the Council of Ministers of the USSR: S.I.Gorlovskiy, Mekhanobr Card 1/# Institute: L.A. Ivanova, Nauchno-issledovatel'skiy . .









SOV/136-53-10-3/27 Study of the Adsorption of Dithiophosphate and Xanthate by Molybdenite

to depend on the pH: the curve for diethyldiphosphate being linear and for pH = 2-10 while that for butyl xanthate had a maximum at pH = 6. Linear relations were found between the logarithm of time and the quantity adsorbed at various pH values (Figure 5), temperatures, (Figure 6) and concentrations (Figure 7). Adsorption is hindered by the presence of a hydrocarbon film formed by pre-treatment (Figure 8) but treatment with hydrocarbons after adsorption protects the reagent from desorption (Figure 9) by sodium sulphide. There are 9 figures and 5 Soviet references.

ASSOCIATION: Gintsvetmet

Card 2/2

SOV/136-58-10-3/27

AUTHORS: Kurochkina, A.V. and Mitrofanov, S.I.

TITLE: Study of the Adsorption of Dithiophosphate and Xanthate

by Molybdenite (Izucheniye adsorbtsii ditiofosfata i

ksantogenata molibdenitom)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 10, pp 17 - 21 (USSR)

ABSTRACT: Doubt remains on the function of dithiophosphate and xanthate in molybdenite flotation, although much work (Pofs 1 - 5) has been done. Neither the authors (Ref 3

(Refs 1 - 5) has been done. Neither the authors (Ref 3) nor the other investigators measured the adsorption of the reagents directly and accurately. In the present work, this was done by using ethyl dithiophosphate containing

and butyl xanthate containing S³⁵ with the - 0.10 +0.054 and +0.30 + 0.044 mm mineral (0.85% moisture, 50.55% molybdenum, 9.2% silicic acid, 0.03% copper, 0.14% iron). 0.5-grain samples were used with the addition of 10 ml portions of the activated collector solutions. After filtering, the solid was washed with water or acid solutions.

Washing with 25 ml was found to be sufficient (Figures 1, 2); sodium sulphide caused desorption of both reagents (Figures 1, 2); the adsorption was found (Figures 1, 3, 4)

Card 1/2

SOV/136-58-6-11/21
Kinetics of the Sulphidisation of Smithsonite and Calamine and Collector Adsorption on their Surface

Sulphidisation lowers the adsorption of xanthate on calamine; adsorption of collector rises sharply on calamine and smithsonite after activation by copper sulphate, especially after sulphidisation before activation; however, elevation of the concentration above a certain level lowers the adsorption of collector. There are 8 figures and 2 Soviet references.

ASSOCIATION: Gintsvetmet

Card 3/3

SOV/136-58-6-11/21

SOV/136-58-6-11/21 Kinetics of the Sulphidisation of Smithsonite and Calamine and Collector Adsorption on their Surface

> (Figure 3) were studied as well as the influence of potassium-xanthate concentration on its adsorption on calamine for various states of sulphidisation and activation (Figure 4). Tests on adsorption were also carried out, showing the influence of pH on the recovery of calamine in the concentrate and adsorption of butyl xanthate on it (Figure 5), of mixing time at various temperatures (Figure 6). Comparison of the curves shows a parallelism between amenability to flotation of the minerals and adsorption of the collector, especially evident with simultaneous action of a depressor for a constant consumption of collector (Figure 7); the range of parallelism otherwise is limited (Figure 8). The authors' give equations for the growth of the sulphide film and the adsorption covering by diethyldithiophosphate and xanthate on the minerals. The apparent activation energy for the sulphidisation of calamine and smithsonite are given as 5540 and 3880 cal, and that for the adsorption of dithiophosphate and isoamyl xanthate 2400 cal.

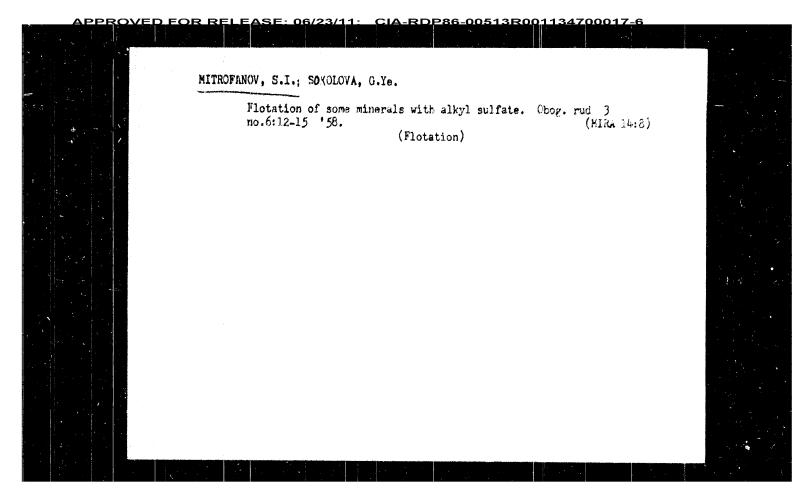
Card 2/3

SOV/136-58-6-11/21 AUTHORS: Mitrofapov, S.I. and Kushnikova, V.G. Kinetics of the Sulphidisation of Smithsonite and · TITIE: Calamine and Collector Adsorption on their Surface (Kinetika sul'fidizatsii Smitsonita i kalamina i adsorbtsii sobiratelya na ikh poverkhnosti) PERIODICAL: Tsvetnyye Metally, 1958, Nr 6, pp 62 - 65 (USSR) The conditions for the sulphidizing of the important ABSTRACT: oxidising zinc minerals smithsonite and calamine, respectively, from the Tetyukinskove and Tayninskove deposits, and the adsorption on them of collectors has been studied by the authors with the aid of radioactive isotopes (S^{35}) and P^{32}). The minerals were ground and the -0.3 + 0.15 mm fraction screened out. 10 ml of a sodium sulphide (sulphate-free) solution containing s35 were taken with 0.5 g of mineral for the sulphidisation experiments, the radioactivity of the solid separated after a given time and washed under standard conditions being determined. The effects on sulphide adsorption

RDP86-00513R001134700017

of its initial concentration (Figure 1), of pH (Figure 2) of mixing time at different temperatures (10 to 67 C)

Cardl/3



SOV/1294 Differential Flotation; Theory and Practice COVERAGE: The book presents the basic elements of the theory of flotation, based both on Soviet and non-Soviet studies, and also describes flotation in actual practice at concentration plants. Details are given at various processes, and basic equipment and production-control methods are described. There are 420 references, of which 240 are Soviet, 156 English, 17 German, 5 French, 1 Swedish, and 1 Finnish. No personalities are mentioned. TABLE OF CONTENTS: Preface 7 9 Introduction PART I. SOME ELEMENTS OF THE THEORY OF FLOTATION Ch. 1. Characteristics of Phases and Boundary Layers 13 1. Liquid phase (water) Card 2/13

OVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

18(5)

PHASE I BOOK EXPLOITATION

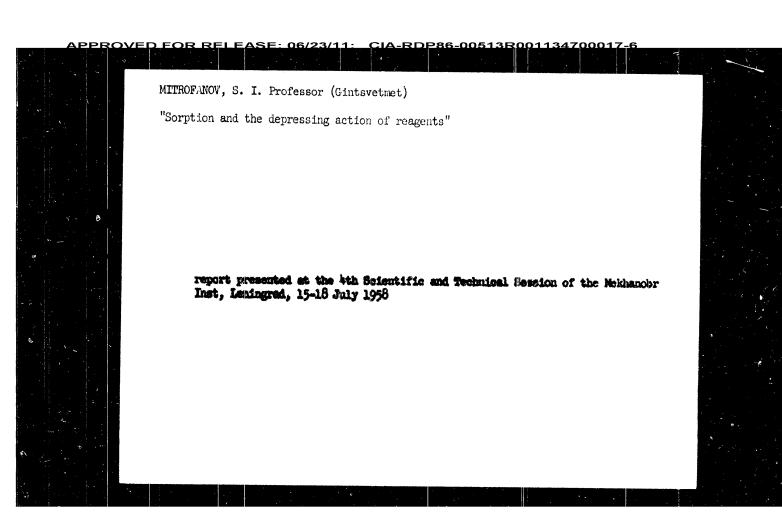
SOV/1294

Mitrofanov, Spridon Ivanovich

Selektivnaya flotatsiya; teoriya i praktika (Differential Flotation; Theory and Practice), Moscow, Metallurgizdat, 1958. 726 p. 3,300 copies printed.

Reviewers: Eygeles, M.A., Doctor of Technical Sciences; Strel'tsin, G.S., Candidate of Technical Sciences; and Matveyenko; N.V., Engineer; Ed.: Troitskiy, A.V.; Ed. of Publishing House: Yezdokova, M.L.; Tech. Ed.: Vaynshteyn, Ye. B.

PURPOSE: This book is intended for engineers and technicians engaged in the beneficiation of metallic and nonmetallic minerals. It may also be used by students of secondary and higher educational institutions, as well as by employees of concentration plants in various branches of industry.



SOV/137-58-7-15743

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 262 (USSR)

AUTHOR: Mitrofanov, (No initials given)

TITLE: Influence of Elevated Temperature on the Mechanical Properties of Sheet Iron (Vliyaniye vysokoy temperatury na mekhanicheskiye

svoystva listovogo chuguna)

PERIODICAL: Tr. Dal'nevost. politekhn. in-ta, 1957, Vol 47, Nr 7, pp 1-7

ABSTRACT: Three types of sheet iron were tested. Roofing sheet iron, structural sheet iron inoculated with Mg (MSI), and low-carbon sheet iron. It was found that sheet iron can be used in loadcarrying structures exposed to a 300°C temperature; in this case MSI is preferable since its range of elevated brittleness lies in the 350-450 temperature range. On the other hand, its range of maximum plastic deformability lies in the temperature interval between 300 and 350°. One of the many factors affecting the decrease in strength and plasticity at 500° and higher is the separation in the solid solution of finely dispersed phases the strength and plasticity of which is lower than that of the ferrite grain. 1. Iron--Mechanical properties 2. Sheets--Temperature factors

Card 1/1

A. S.

SOV/137 58 10 20408

The Influence of Pulp pH on the Desorption of a Collector (cont.)

as follows: CuS-activated ZnS-PbS-FeS2. The optimum pH values for various minerals at which the best desorption of collector is observed are determined. A parallelism is found between the phenomenon of xanthate desorption from mineral surfaces and floatability. It is demonstrated that it is possible to separate various sulfide minerals at strictly determinate pH values.

N. M

1. Hydrogen ion concentration--Chemical effects 2. Metal sulfides--Surface properties 3. Minerals--Flotation 4. Iron cyanide--Chemical reaction

Card 2/2

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SOV/137-58-10-20408

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p8 (USSR)

AUTHORS: Kuznetsova, L. N., Mitrofanov, S. I.

TITLE: The Influence of Pulp pH on the Desorption of a Collector From

the Surface of Sulfide Minerals by Complex Iron Cyanides (Vliyaniye pH pul'py na desorbtsiyu sobiratelya s poverkhnosti sul'fidnykh mineralov kompleksnymi tsianidami zheleza)

PERIODICAL: Tr. N.-i. gorno-razved. in-ta "Nigrizoloto", 1957, Nr 23, pp 116-121

ABSTRACT: In this work a study is made of the influence of complex Fe

cyanides on the adsorption and desorption of a collector from the surfaces of sulfides. Investigation of the reaction of collector and complex Fe cyanides on the surface of sulfides was performed in terms of relation to pH value under conditions of rigorous and constant control thereof. The method of investigation is adduced, and the results thereof are set forth. Investigations have determined that the action of the cyanides depend upon pH. $K_4[Fe(CN)_6]$ is a good desorbent and depressant for a number of the cyanides depend upon pH.

ber of sulfide minerals. All the minerals may be arranged in series in declining order of degree of "depression" by K_4 [Fe(CN₄].

SOV/137-58-9-18300

M. M.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958. Nr 9, p 11 (USSR)

AUTHOR: Mitrofanov, S. L.

TITLE: Utilization of Radioactive Isotopes in the Investigation and Control of Ore dressing Processes (Ispol'zovaniye radioaktiv nykh izotopov v issledovanii i kontrole protsessov obagashche in the basis of

niya)

PERIODICAL: Sb. statey Vses. zaochn. politekhn. in-ta, 1957, Nr 18. pp 76~87

In ore dressing (D), radioactivity can be used directly in the ABSTRACT:

organizing of the process of D as a means of control of the D process, as well as in the investigation of various phenomena related to the D processes. The development of the works on the utilization of radioactive isotopes permits not only to broaden our knowledge in the realm of the theory of $\hat{\mathbf{D}}$ processes but also to organize the automation of control and regulation of

the processes of grinding, flotation etc.

1. Ores--Processing 2. Radioisotopes--Performance

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<u> APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6</u>

137-58-4-6397

Translation from: Referationyy zhurnal, Metallurgiya, 1958, Nr 4 p 9 (USSR)

AUTHORS: Kurochkina, A. V., Mitrofanov, S. I.

TITLE: Combined Method for t

Combined Method for the Treatment of Hard Concentrated ("Persistent") Oxidized Ores (Kombinirovannyy metod pererabotki dzhezkazganskikh "upornykh" okislennykh rud)

PERIODICAL: Sb. nauchn. tr. Gos. n.-i. in-t tsvetn. met., 1957, Nr 13. pp 28-41

ABSTRACT: The following procedure for the treatment of "stubborn creswas developed. Leaching for 48 min. The acid consumed was 3.38-5.3 kg per kg Cu. Residual acidity after leaching 0.2 percent. Carburization for 10 min in iron filings, and 5 min with sponge Fe. Consumption of precipitant: 3 kg per kg Cu. Residual acidity 0.05 percent. Flotation with grinding of 70 percent of creto 0.074 mm. Density of classifier tailings 29-33 percent. Duration (in min) of major flotation 22-25, of control flotation 15 cf first re-cleaning 5-7, of second re-cleaning 5-15. Consumption of reagents: Frother 200-350 g/t, xanthogenate 200 g/t.

Card 1/1 1. Ores--Processes--Test methods 2. Ores--Processes--Test results

MITROTANOU, S.T.

136-8-17/21

AUTHOR: Mitrofanov, S.I.

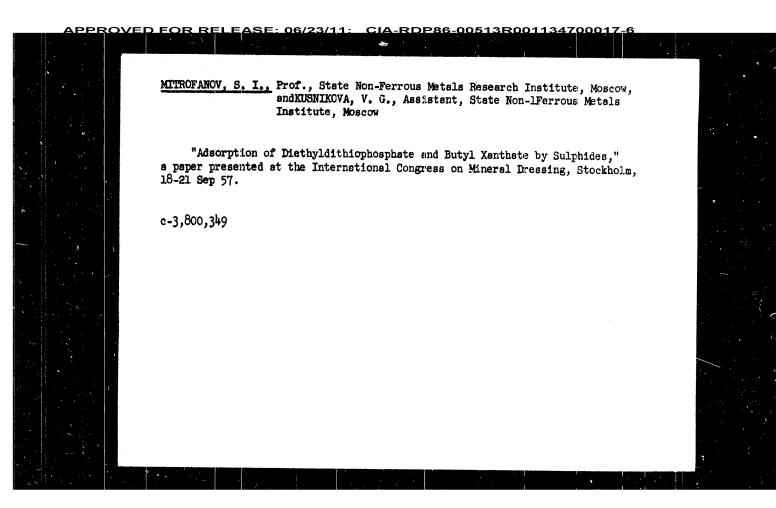
TITLE: On the Article by N.V.Matveyenko, "Kinetics of Flotation on the Basis of Similarity Between Absorption and Mineralization of Air Bubble" (Po povodu stat'i N.V.Matveyenko, "Kinetika flotatsii na osnove podobiya mezhdu adsorbtsiyey

i mineralizatsiey puzyr'kov vozdukha")

PERIODICAL: Tsvetnye Metally, 1957, Nr 8, pp.80-82 (USSR)

ABSTRACT: The author discusses the equations proposed by Matveyenko to represent the kinetics of flotation, published in Tsvetnye Metally, 1957, Nr 7. He shows plots of forms of these equations and of those proposed by other authors which show good agreement with experimental points. He maintains, however, that too much attention has been devoted in the journal to formal representations of the kinetics of flotation and not enough to the study of the influence of various factors on the kinetics.

AVAILABLE: Library of Congress.



MITTOPANNY, S. I., Professor at Cinevetent (State Row-Terrour Datale Assaurch Sect., Moscov)

"Solution of Som Problems Concerning the Micory and Provided Of Selective Flotation in the Micory and provided Congress on Mineral Dressing, Standbolm, Sweden, 16-21 Cop 37

C-3,800,309

Mitrofanev, S. I.

USSR/Physical Chemistry - Surface Phenomena. Adsorption. Chromatography. Ion Exchange, B-13

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 580

Author: Beloglazov, K. F., Mitrofanov, S. I.

Institution: Leningrad Mining Institute

Title: Fundamental Relationships of the Flotation Process; Present State of the Theory of the Flotation Process; Survey of Discussion of the Report by Professor K. F. Beloglazov "Fundamental Relationships of the

Flotation Process."

Original

Periodical: Zap. Leningr. gorn. in-ta, 1956, Vol 32, No 3, 23-35; 37-54; 55-81

Abstract: Reports and discussion of the seminar held in March-April 1951 at the

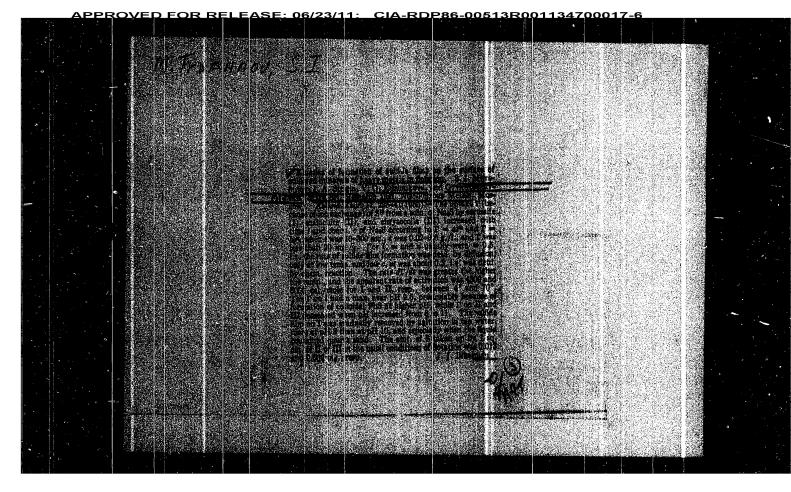
Leningrad Mining Institute.

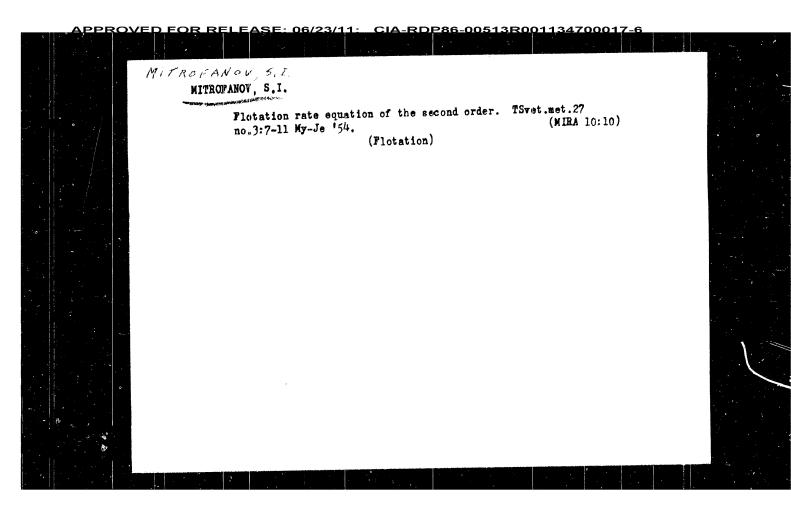
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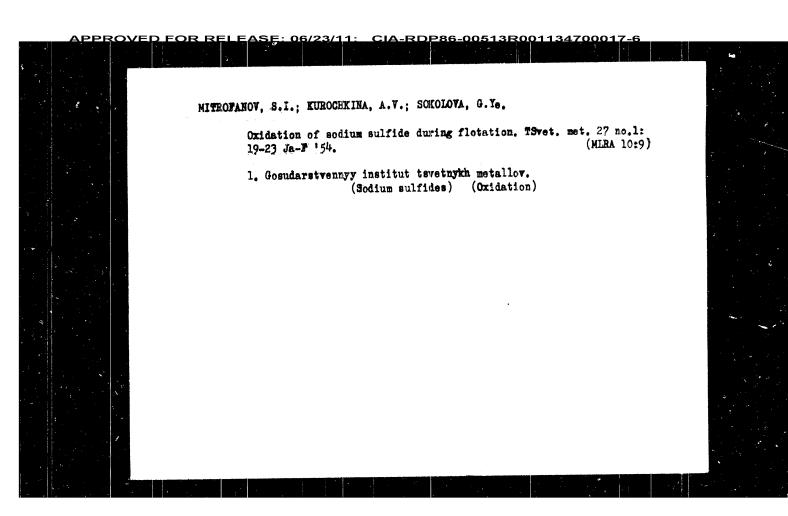
IUZHITSOVA, L.N.; MITROFAMOV, S.I.

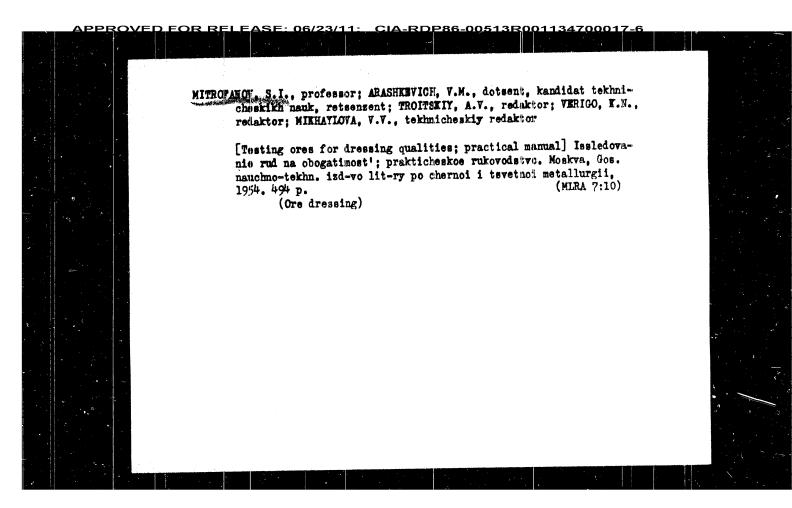
On the mechanism of cyanide and sinc sulfate depression of heavy-metal sulfide minerals. TSvet.met.29 no.3:5-9 Kr 156. (MERA 9:7)

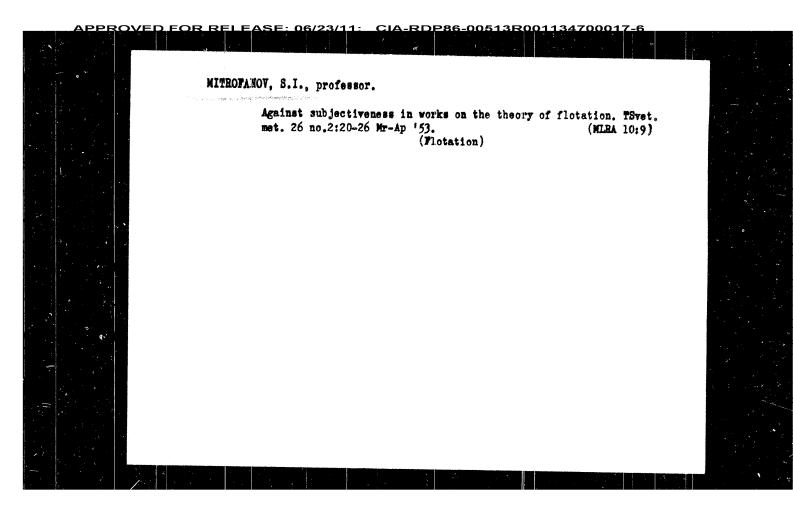
1. Higrisoleta: (Radieactive tracers--Industrial application)(Zinc--Metallurgy)(Cyanides)

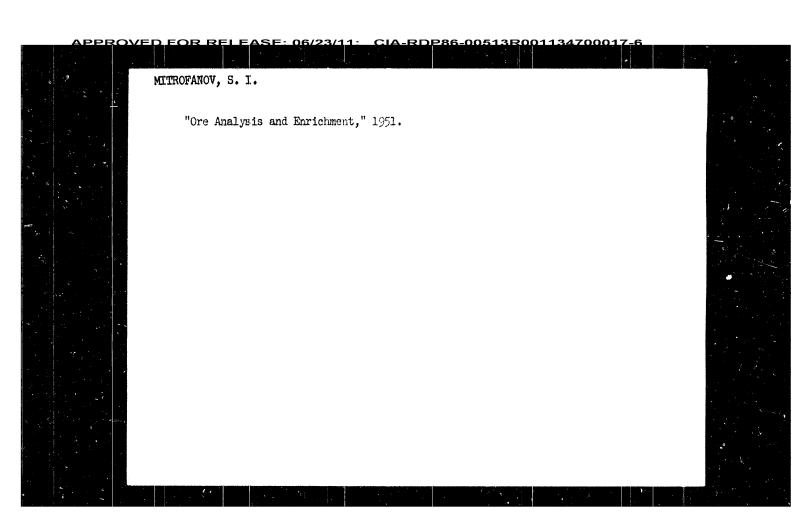


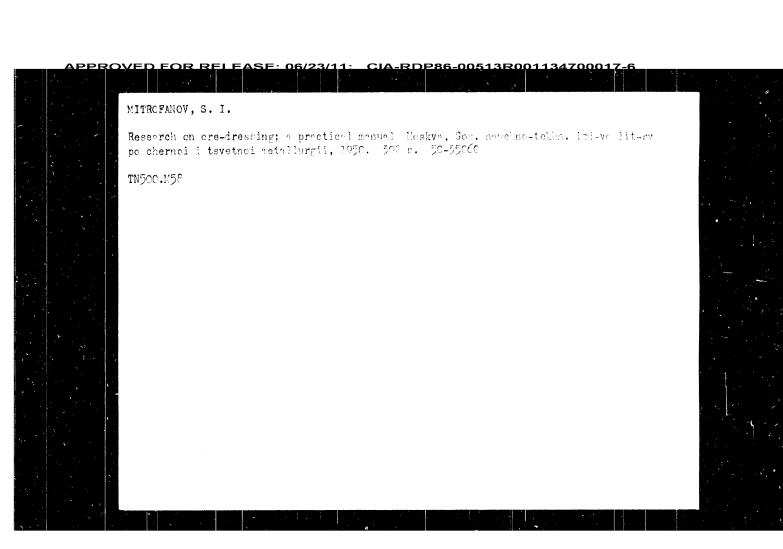












MITROFANOV, S. I. PA 167103 May/Jun 1947 USSR/Metals - Nonferrous Mineral deposits "Results of Work on Testing of Nonferrous and Rare Metal Ores for Concentration in Heavy Suspensions," S. I. Mitrofanov, State Institute for Nonferrous Metallurgy, 3 pp "Tsvetnyye Metally" No 3 Discussion of ore content necessary to meet present requirements. Due to large supply of low grade ore, recommends present methods of concentration be altered. Work on the latter to be conducted at Experimental Institute (State Institute for Monierrous Metallurgy). 16:M103

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137-1958-3-4519

, Kinetics of Diethyldithiophosphate and Ethylxanthogenate (cont.)

powder with the collector solution; a and n are constants. On the surface of the pyrite, the adsorption rate of the collectors I and II increases with an increase in the temperature of the pulp. The apparent energy of activation is approximately 2.4 kcal. for the adsorption of II. Kinetic isotherms for various temperatures all show a break at a point which corresponds essentially to the same amount of adsorbed substance, perhaps to the saturation of a monomolecular layer. The adsorption of the collector and of the Ca^{++} ion by the pyrite, as a function of the pH is determined by the equation: $G=a\pm v.$ pH. Ca^{++} ions present in solution (with a pH of 9) affect the adsorption of II by the pyrite only slightly. According to the results obtained, low temperatures and increased velocity of flotation are essential for effective separation of Cu and Pb sulfides from pyrite, because at low temperatures the adsorption rate of the collector substance by the pyrite is small.

A. Sh.

Card 2/2

MitroFanoy S.I.

137-1958-3-4519

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 6 (USSR)

Mitrofanov, S. I., Ratnikova, O. A. AUTHORS:

Kinetics of Diethyldithiophosphate and Ethylxanthogenate Adsorption by Pyrite (Kinetika adsorbtsii dietilditiofosfata i

etilksantogenata na pirite)

PERIODICAL: Sb. nauchn. tr. Gos. n.-i. in-t tsvetn. met., 1957, Nr 13,

pp 20-27

ABSTRACT:

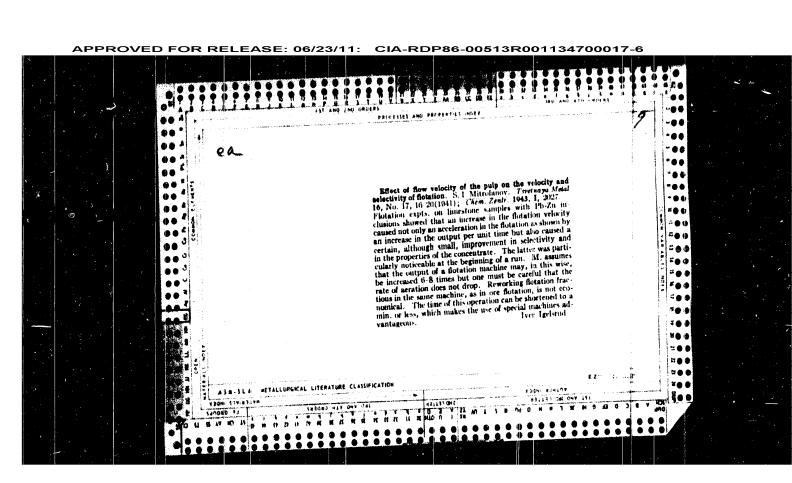
A study of certain factors which influence the adsorption of Na diethyldithiophosphate (I) and of ethylxanthogenate (II) by pyrite. When the consumption of the collector is uniform per each ton of solid, and the solid-to-liquid ratio is constant, the adsorption rate per unit of surface of the mineral powder is greater for large grades than it is for fine ones (within the limits of the sizes tested of -0.3 and +0.044 mm); the kinetic isotherms of the adsorption of I and II are defined by the equation

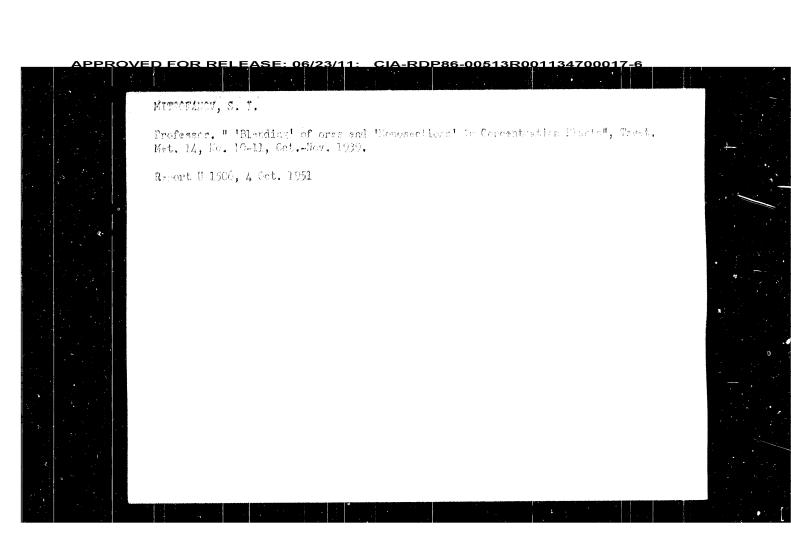
 $G = at^{1/n}$, and the isochrones are determined by the equation $G = aC_0^{1/n}$, where G is the amount of the collector substance adsorbed by the powder; t is the time required for mixing of the

Card 1/2

TITLE:

APPROVED FOR RELEASE: 06/23/11: CIA-RDPSG-00513R001134700017-6 **Treation of sphilerite.** **Treation of sphilerite is the floating of the section of the section of the section of the section of sphilerite is the floating of the section of the





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1. MITROFANOV, S.I.

2. USSR (600)

Professor, Ordahonikidae Institute of Nonferrous Metals. "The Speed with which Pulp Passes Through a Flotation Machine and the Speed of Flotation", Tsvet. Bet. 14, No ?, August 1939.

9. Professor, Ordahonikidae Institute of Nonferrous Metals. "The Speed with which Pulp Passes Through a Flotation Machine and the Speed of Flotation", Tsvet. Bet. 14, No ?, August 1939.

